Hand Safety Week – Preventing RSI's

Richmond Refinery Safety Topic of the Day
Wednesday

9/23/09

Attention: Please turn on speakers for audio attachment on the last slide!

 DOC ID

The size of the problem

Hand injuries are the single largest category of injuries at Chevron

Why?

- Hand RSIs averaged 8% of all hand recordable injuries in the last 5 years.

What is a Repetitive Stress Injury?

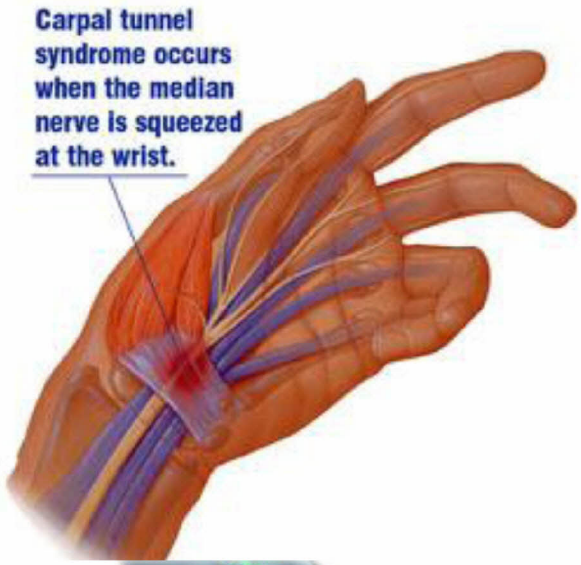
Repetitive stress injuries (RSI) are a group of conditions generally caused by placing too much stress on a joint. Most repetitive stress injuries are associated with repetitive motions at the computer or overuse injuries in sports.

An RSI occurs when stress is placed on a joint, pulling on the tendons and muscles around the joint. When the stress occurs repeatedly, the body does not have time to recover and becomes irritated. The body reacts to the irritation by increasing the amount of fluid in that area to reduce the stress placed on the tendon or muscle.

RSI's are also called Cumulative Trauma Disorders.

Examples of RSI's

- Back Strains/ Sprains
- Carpal Tunnel Syndrome
- Cubital Tunnel Syndrome
- Tendinitis
- Shoulder Strains

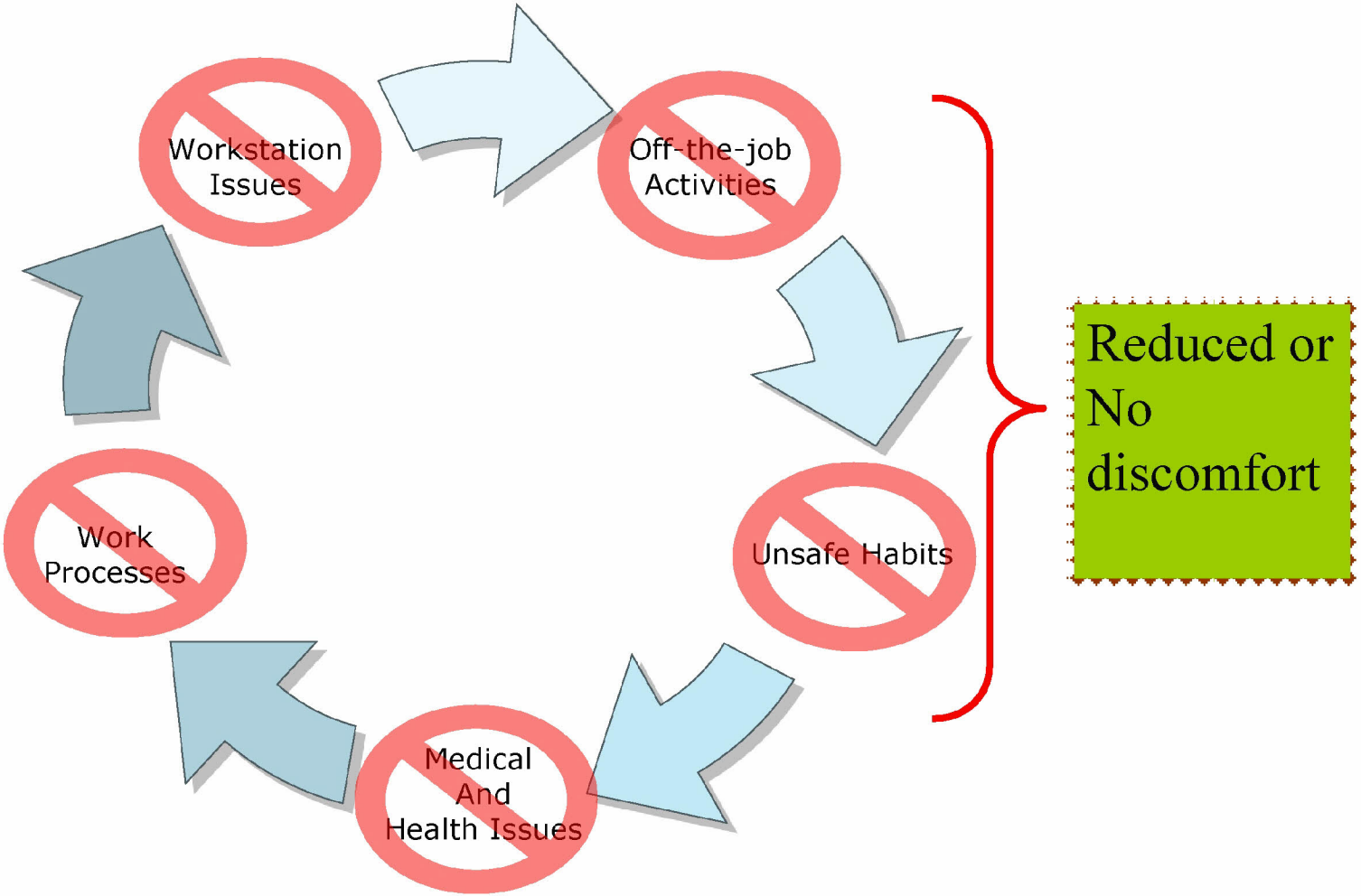


What are symptoms of an RSI?

- Pain or Discomfort
- Weakness or loss of grip strength
- Numbness and tingling in the hand
- Nocturnal Numbness
- Swelling and Soreness in wrists
- Inability to distinguish hot and cold

Call 242-ERGO to report symptoms and/or discomfort as soon as possible!

Break the RSI Cycle – reduce risks in all areas.



Reducing the RSI risk with safe behaviors

Safe behaviors

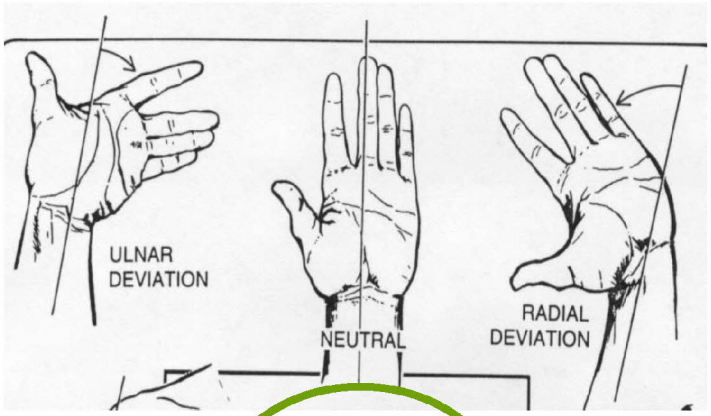
Most significant risk factor
Impact both on and off-the-job activities
Most cost effective

1. Adhere to Work Pace Software on Gil Workstations – 100% micro-pauses! 90% Work Pace Breaks!
2. Do your best to have good posture – Ears over Shoulders over Hips over Ankles

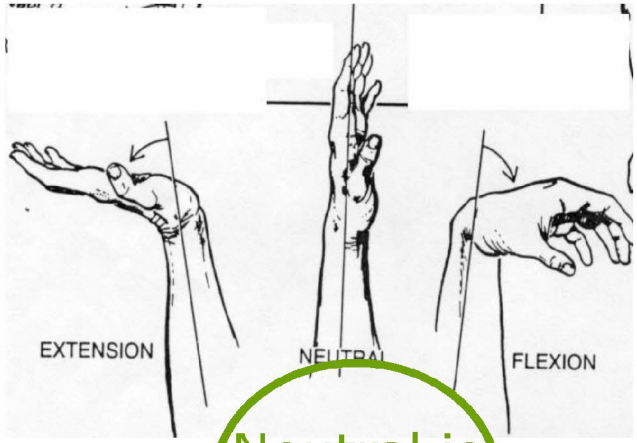
Assess, Analyze, Act

Hand tool - Risk Factors

1. Wrist and Hand Position



Neutral is Desirable



Neutral is Desirable

Some tools are specially designed so the tool does the bending and not your wrist. Bent handle pliers, hammers, utility knives and even screw drivers are commercially available. Depending on the task, these can mean less wear and tear on your joints and muscles.

Hand tool - Risk Factors

2. Repetitiveness of the task

- Similar Task/Movements
- Dependent on duration and recovery time
- A guideline for "repetition" is performing the same motions continuously for 2 hours, or more than a total of 4 hours during the day.

3. Pinch Grips

- Lateral, Precision, or Palmar Pinch

Pinch grips, when combined with high force and repetition can place stress on the wrist. One example is the lateral pinch which uses the thumb & side of the index finger like in turning a key. The precision pinch uses just the tip of the thumb & index finger for small tool use and the palmer pinch is when an object is held between the fingers and the palm.

Hand tool - Risk Factors

4. Poor Handle Design

- Slippery
- Unbalanced
- Hard, unpadded
- Grips that don't fit
- Finger indentations

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Reduce Risk Factors – Hand Tools

1. Good Handle Design

- Textured Grips
- Padded Handles
- Vibration Dampening
- Low force
- Elbow bent close to your side
- Accommodates different hand sizes, not too large

Reduce Risk Factors – Hand Tools

2. Properties of good PLIERS

- 4” handles
- Cushioned handles with friction
- Handle opening 2-2.5”
- Spring loaded
- Bent handles/ pistol grip

When selecting pliers, look for handles four or more inches long without pressure points on palms & fingers, cushioned handles with good friction for gripping and handle openings between 2-2 1/2 inches. Spring loaded handles in some pliers can lessen muscle fatigue and a bent handle design, depending on the job, may reduce wrist strain.

Reduce Risk Factors – Hand Tools

3. Properties of good SCREWDRIVERS

- 4 – 5” handle (standard)
- 3 – 4” handle (precision)
- Domed Handle
- Dual textured
- Blade tip matches the fastener

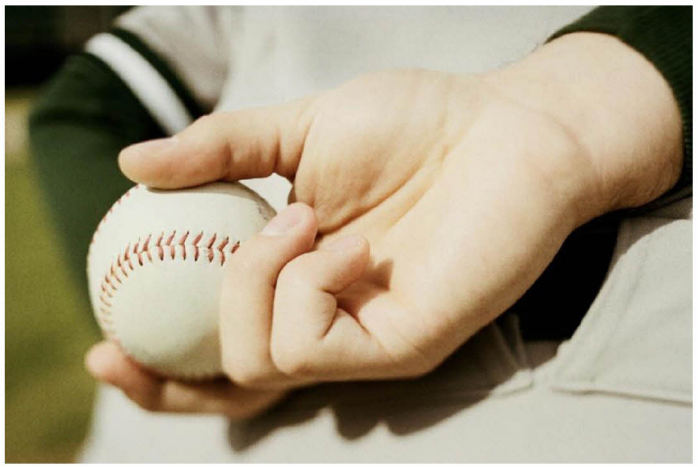
When selecting pliers, look for handles four or more inches long without pressure points on palms & fingers, cushioned handles with good friction for gripping and handle openings between 2-2 1/2 inches. Spring loaded handles in some pliers can lessen muscle fatigue and a bent handle design, depending on the job, may reduce wrist strain.

Reduce RSI Risk Factors - Related

4. Maintain your fitness

- People who exercise 3+ times per week had fewer reports of discomfort (
- Take mini breaks and stretch breaks to improve range of motion and increase blood flow.

Like cars, preventive maintenance keeps our bodies running at peak efficiency. For people, protecting ourselves from CTD's means maintaining joint & muscle flexibility and strength through a regular routine of stretching and strength training.



Reduce RSI Risk Factors:

5. Vary your tasks – Work planning and flow

Varying your tasks provides recovery time for muscles of your back, shoulders, forearms, wrists and hands.

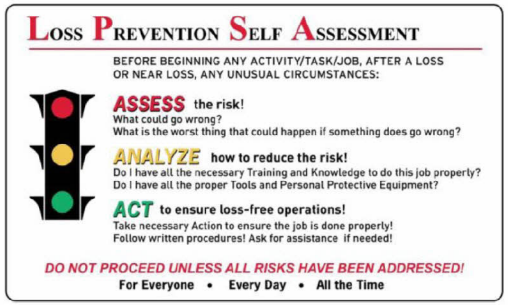
Message from Nigel Hearne,
Refinery General Manager

Hand Safety Week Activity

During a regularly scheduled safety meeting pass out IIF "Watch Your Hands", neon finger-tipped gloves.

Ask members of your team to share their experiences related to Hand Safety, and what their key hand safety learning is. Why are your hands important to you? It is important to ask every member of the team.

Whenever we see a pair of these gloves, let that be a reminder to us to do a complete LPSA and share what we learned.



WILL THE RIGHT GLOVES LESSEN OR PREVENT AN INJURY?

[redacted]

Sharing Personal Stories

[redacted]

[redacted]

At the time of his injury, [redacted] was loading a pump – listen to [redacted] story.

Safety Reminder – Be aware of the presence of pinch points. Do not try to use your body (hand, arm, leg or feet) to slow the movement of a mechanical part.

[redacted]

Sharing Personal Stories

[redacted] was injured seriously at home when he packed down garbage in a trash can.

Safety Reminder: Do and LPSA at the start of a new task. Assess all of the potential risks, analyze, and act to reduce risks and prevent injury and incidents. And, use the right tool for the job.

[redacted]

Sharing Personal Stories

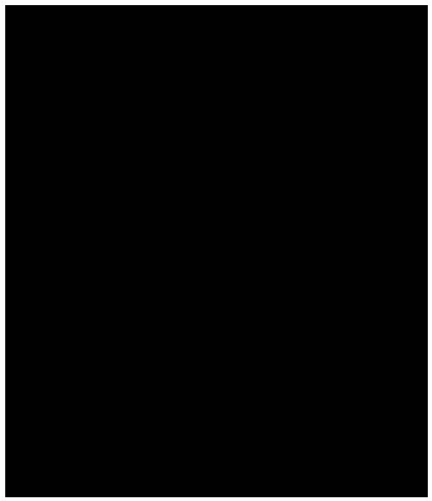
At the time of his injury, [redacted] was an operator at Blending and Shipping.

Safety Reminder - Pay attention to the little things. Follow up on safety work orders, when you're retrieving a sample, use a sample carrier, and finally, wear gloves – all of these things could have lessened the severity of my injury.

[redacted]

[redacted]

Sharing Personal Stories



[redacted] pinched his finger while unloading a spool. Listen to [redacted] story.

Safety Reminder: Use the right tool for the job.